

Form PTO-1449 (modified)

Atty. Docket No.

Serial No.

UTSD:596/S LH

09/460,292

Applicant

David J. Mangelsdorf, Joyce J. Repa, Stephen D. Turley
and John M. Dietschy

Filing Date:

December 10, 1999

Group:

1615 1632

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JUN 19 2000
INFORMATION DISCLOSURE STATEMENT
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Documents

Exa m. m. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
<i>JW</i>	A1	4,430,434	Feb. 7, 1984	Sanders <i>et al.</i>	435	253	May 7, 1980
	A2	4,559,302	Dec. 17, 1985	Thomas D. Ingolia	435	172.3	Nov. 1, 1982
	A3	4,727,028	Feb. 23, 1988	Santerre <i>et al.</i>	435	240.2	Sep. 30, 1983
	A4	4,960,704	Oct. 2, 1990	Ingolia <i>et al.</i>	435	252.33	May 31, 1988
	A5	5,354,855	Oct. 11, 1994	Cech <i>et al.</i>	536	24.1	Feb. 28, 1992
	A6	5,697,899	Dec. 16, 1997	Hillman <i>et al.</i>	604	28	Feb. 7, 1995
	A7	5,779,708	Jul. 14, 1998	Gin Wu	606	80	Aug. 15, 1996
	A8	5,780,676	Jul. 14, 1998	Boehm <i>et al.</i>	562	490	Jun. 7, 1995
	A9	5,783,208	Jul. 21, 1998	Venkateshwaran <i>et al.</i>	424	448	Jul. 19, 1996
	A10	5,789,655	Aug. 4, 1998	Prusiner <i>et al.</i>	800	2	Jun. 6, 1996
	A11	5,797,898	Aug. 25, 1998	Santini, Jr. <i>et al.</i>	604	890.1	Jul. 2, 1996

FOREIGN PATENT DOCUMENTS

EXAM INIT.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
<i>JW</i>	B1	EPO 0273085	Dec. 29, 86	EUROPE			

Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
<i>JW</i>	C1	Accad and Farese Jr., "Cholesterol homeostasis: a role for oxysterols". <i>Curr. Biol.</i> 8:R601-R604, 1998.

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Joe Wontale

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9W	C2	Androlewicz <i>et al.</i> , "Characteristics of peptide and major histocompatibility complex class I/β ₂ -microglobulin binding to the transporters associated with antigen processing (TAP1 and TAP2)," <i>Proc. Natl. Acad. Sci. USA</i> 91:12716 - 12720, 1994.
	C3	Bodzioch <i>et al.</i> , "The gene encoding ATP-binding cassette transporter 1 is mutated in Tangier disease," <i>Nat. Genet.</i> 22:347-351, 1999.
	C4	Boehm <i>et al.</i> , "Design and synthesis of potent retinoid X receptor selective ligands that induce apoptosis in leukemia cells," <i>J. Med. Chem.</i> 38:3146-3155, 1995.
	C5	Brooks-Wilson <i>et al.</i> , "Mutations in ABC1 in Tangier disease and familial high-density lipoprotein deficiency," <i>Nat. Genet.</i> 22:336-345, 1999.
	C6	Brown and Goldstein, "The SREBP pathway: regulation of cholesterol metabolism by proteolysis of a membrane-bound transcription factor," <i>Cell</i> , 89:331-340, 1997.
	C7	Buchler <i>et al.</i> , "cDNA cloning of the hepatocyte canalicular isoform of the multidrug resistance protein, cMrp, reveals a novel conjugate export pump deficient in hyperbilirubinemic mutant rats," <i>J. Biol. Chem.</i> 271(25):15091-15098, 1996.
	C8	Bugge <i>et al.</i> , "RXRα, a promiscuous partner of retinoic and thyroid hormone receptors," <i>EMBO J.</i> , 11(4):1409-1418, 1992.
	C9	Chiang and Stroup, "Identification and characterization of a putative bile acid-responsive element in cholesterol 7α-hydroxylase gene promoter," <i>J. Biol. Chem.</i> , 269(26):17502-17507, 1994.
	C10	Field <i>et al.</i> , "Caveolin is present in intestinal cells: role in cholesterol trafficking?" <i>J. Lipid Res.</i> 39:1938-1950, 1998.
	C11	Forman <i>et al.</i> , "Unique response pathways are established by allosteric interactions among nuclear hormone receptors," <i>Cell</i> , 81:541-550, 1995.
	C12	Forman <i>et al.</i> , <i>Cell</i> , "Identification of a nuclear receptor that is activated by farnesol metabolites," 81:687-693, 1995.
	C13	Forman <i>et al.</i> , "15-Deoxy-Δ ^{12,14} -prostaglandin J ₂ is a ligand for the adipocyte determination factor PPARγ," <i>Cell</i> , 83(5):803-812, 1995b.

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List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT <small>(Use several sheets if necessary)</small>		Applicant David J. Mangelsdorf, Joyce J. Repa, Stephen D. Turley and John M. Dietschy	
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90	C14	Forman <i>et al.</i> , "A domain containing leucine-zipper-like motifs mediate novel <i>in Vivo</i> interactions between the thyroid hormone and retinoic acid receptors," <i>Mol. Endocrinol.</i> , 3:(10)1610-1626, 1989.
	C15	Francis <i>et al.</i> , "Defective removal of cellular cholesterol and phospholipids by apolipoprotein A-1 in Tangier disease," <i>J. Clin. Invest.</i> 96:78-87, 1995.
	C16	Glass, "Differential recognition of target genes by nuclear receptor monomers, dimers, and heterodimers," <i>Endocrine Rev.</i> , 15(3):391-407, 1994.
	C17	Hersdorffer <i>et al.</i> , "Efficient gene transfer in live mice using a unique retroviral packaging line," <i>DNA Cell Biol.</i> , 9(10):713-723, 1990.
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	C19	Homan and Krause, "Established and emerging strategies for the inhibition of cholesterol absorption." <i>Curr. Pharmaceut. Design</i> 3:29-44, 1997.
	C20	Ishibashi <i>et al.</i> , "Hypercholesterolemia in low density lipoprotein receptor knockout mice and its reversal by adenovirus-mediated gene delivery," <i>J. Clin. Invest.</i> , 92:883-893, 1993.
	C21	Ishibashi <i>et al.</i> , "Disruption of cholesterol 7α-hydroxylase gene in mice. I. Postnatal lethality reversed by bile acid and vitamin supplementation," <i>J. Biol. Chem.</i> , 271(30):18017-18023, 1996.
	C22	Janowski <i>et al.</i> , "An oxysterol signaling pathway mediated by the nuclear receptor LXR α ," <i>Nature</i> , 383:728-731, 1996.
	C23	Kliewer <i>et al.</i> , "Convergence of 9-cis retinoic acid and peroxisome proliferator signalling pathways through heterodimer formation of their receptors," <i>Nature</i> , 358:771-774, 1992.
	C24	Kliewer <i>et al.</i> , "Retinoid X receptor interacts with nuclear receptors in retinoic acid, thyroid hormone and vitamin D ₃ signalling," <i>Nature</i> , 355: 446-449, 1992.
	C25	Kliewer <i>et al.</i> , "Differential expression and activation of a family of murine peroxisome proliferator-activated receptors," <i>Proc. Natl. Acad. Sci. USA</i> , 91:7355-7359, 1994..
	C26	Kurokawa <i>et al.</i> , "Differential orientations of the DNA-binding domain and carboxy-terminal dimerization interface regulate binding site selection by nuclear receptor heterodimers," <i>Genes Dev.</i> , 7:1423-1435, 1993.

EXAMINER: *John J. Repa* DATE CONSIDERED: *12/19/00*

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	C28	Kurokawa <i>et al.</i> , "Polarity-specific activities of retinoic acid receptors determined by a co-repressor," <i>Nature</i> , 377:451-454, 1995.
	C29	Langmann <i>et al.</i> , "Molecular cloning of the human ATP-binding cassette transporter 1 (hABC1): evidence for sterol-dependent regulation in macrophages," <i>Biochem. Biophys. Res. Commun.</i> 257:29-33, 1999.
	C30	Lawn <i>et al.</i> , "The Tangier disease gene product ABC1 controls the cellular apolipoprotein-mediated lipid removal pathway," <i>J. Clin. Invest.</i> 104:R25-R31, 1999.
	C31	Leblanc & Stunnenberg, "9-Cis retinoic acid signaling: changing partners causes some excitement," <i>Genes Dev.</i> , 9:1811-1816, 1995.
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	C33	Lehrman <i>et al.</i> , "Alu-Alu recombination deletes splice acceptor sites and produces secreted low density lipoprotein receptor in a subject with familial hypercholesterolemia," <i>J. Biol. Chem.</i> , 262(7):3354-3361, 1987.
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	C35	Leid <i>et al.</i> , "Multiplicity generates diversity in the retinoic acid signalling pathways," <i>Trends Biochem Sci.</i> , 17:427-433, 1992.
	C36	Mangelsdorf <i>et al.</i> , "A direct repeat in the cellular retinol-binding protein type I gene confers differential regulation by RXR and RAR," <i>Cell</i> , 66:555-561, 1991.
	C37	Mangelsdorf <i>et al.</i> , "Characterization of three RXR genes that mediate the action of 9-cis retinoic acid," <i>Genes Dev.</i> , 6:329-344, 1992.
	C38	Mangelsdorf <i>et al.</i> , "Nuclear receptor that identifies a novel retinoic acid response pathway," <i>Nature</i> , 345:224-229, 1990.
	C39	Marks <i>et al.</i> , "H-2RIIBP (RXRβ) heterodimerization provides a mechanism for combinatorial diversity in the regulation of retinoic acid and thyroid hormone responsive genes," <i>EMBO J.</i> , 11(4):1419-1435, 1992.

EXAMINER: *Joe W. Taitach*

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QW	C40	McNeish <i>et al.</i> , "High density lipoprotein deficiency and foam cell accumulation in mice with targeted disruption of ATP-binding cassette transporter-1," <i>PNAS</i> , 97(8): 4245-4250, 2000.
	C41	Mori <i>et al.</i> , "Molecular cloning and deduced amino acid sequence of nonspecific lipid transfer protein (sterol carrier protein 2) of rat liver: a higher molecular mass (60 kDa) protein contains the primary sequence of nonspecific lipid transfer protein as its C-terminal part," <i>Proc. Natl. Acad. Sci. USA</i> , 88:4338-4342, 1991.
	C42	Orso <i>et al.</i> , "Transport of lipids from Golgi to plasma membrane is defective in Tangier disease patients and <i>Abcl</i> -deficient mice," <i>Nature Genetics</i> , 24:192-196, 2000.
	C43	Osono <i>et al.</i> , "Role of the low density lipoprotein receptor in the flux of cholesterol through the plasma and across the tissue of the mouse," <i>J. Clin. Invest.</i> , 95:1124-1132, 1995.
	C44	Peet <i>et al.</i> , "The LXRs: a new class of oxysterol receptors," <i>Curr. Opin. Genet. Dev.</i> 8:571-575, 1998.
	C45	Peet <i>et al.</i> , "Cholesterol and bile acid metabolism are impaired in mice lacking the nuclear oxysterol receptor LXRx," <i>Cell</i> 93:693-704, 1998.
	C46	Perlmann & Jansson, "A novel pathway for vitamin A signaling mediated by RXR heterodimerization with NGFI-B and NURR1," <i>Genes Dev.</i> , 9:769-782, 1995.
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	C49	Rudding, "Hepatic mRNA levels for the LDL receptor and HMG-CoA reductase show coordinate regulation <i>in vivo</i> ," <i>J. Lipid Res.</i> , 33:493-501, 1992.
	C50	Russell and Setchell, "Bile acid biosynthesis," <i>Biochemistry</i> , 31(20): 4737-4749, 1992.
	C51	Rust <i>et al.</i> , "Tangier disease is caused by mutations in the gene encoding ATP-binding cassette transporter 1," <i>Natural Genetics</i> , 22: 352-355, 1999.
	C52	Savary <i>et al.</i> , "Isolation and chromosomal mapping of a novel ATP-binding cassette transporter conserved in mouse and human," <i>Genomics</i> 41:275-275, 1997.

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David J. Mangelsdorf, Joyce J. Repa, Stephen D. Turley
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9W	C53	Schwarz <i>et al.</i> , "Marked reduction in bile acid synthesis in cholesterol 7 α -hydroxylase-deficient mice does not lead to diminished tissue cholesterol turnover or to hypercholesterolemia," <i>J. Lipid Res.</i> 39:1833-1843, 1998.
1	C54	Shimano <i>et al.</i> , "Overproduction of cholesterol and fatty acids causes massive liver enlargement in transgenic mice expressing truncated SREBP-1a," <i>J. Clin. Invest.</i> , 98(7):1575-1584, 1996.
	C55	Shimano <i>et al.</i> , "Elevated levels of SREBP-2 and cholesterol synthesis in livers of mice homozygous for a targeted disruption of the SREBP-1 gene," <i>J. Clin. Invest.</i> , 100(8):2115-2124, 1997.
	C56	Tall, "An overview of reverse cholesterol transport," <i>Eur. Heart J.</i> 19(Suppl. A): A31-A35, 1998.
	C57	Turley and Dietschy, "The metabolism and excretion of cholesterol by the liver," In: <i>The Liver Biology and Pathobiology</i> , Arias, Jakoby, Popper, Schachter, Shafritz (eds.), New York: Raven Press, Ltd., pp. 617-641, 1988.
	C58	Turley <i>et al.</i> , "Psyllium augments the cholesterol-lowering action of cholestyramine in hamsters by enhancing sterol loss from the liver," <i>Gastroenterology</i> , 107:444-452, 1994.
	C59	Turley <i>et al.</i> , "Cholesterol-lowering action of psyllium mucilloid in the hamster: sites and possible mechanisms of action," <i>Metabolism</i> , 40(10):1063-1073, 1991.
	C60	Turley <i>et al.</i> , "Effect of feeding psyllium and cholestyramine in combination on low density lipoprotein metabolism and fecal bile acid excretion in hamsters with dietary-induced hypercholesterolemia," <i>J. Cardiovasc. Pharmacol.</i> 27:71-79, 1996.
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	C62	Wahlstrom <i>et al.</i> , "Binding characteristics of the thyroid hormone receptor homo- and heterodimers to consensus AGGTCA repeat motifs," <i>Mol. Endocrinol.</i> , 6:1013-1022, 1992.
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	C64	Willy <i>et al.</i> "LXR, a nuclear receptor that defines a distinct retinoid response pathway," <i>Genes Dev.</i> , 9:1033-1045, 1995.

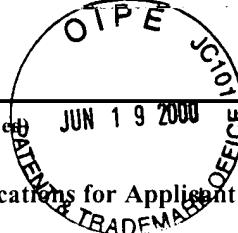
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	C66	Yokode <i>et al.</i> , "Diet-induced hypercholesterolemia in mice: prevention by overexpression of LDL receptors," <i>Science</i> , 250:1273-1275, 1990.
	C67	Young and Fielding, "The ABCs of cholesterol efflux," <i>Nature Genetics</i> 22: 316-318, 1999.
	C68	Yu <i>et al.</i> , "RXRβ: A coregulator that enhances binding of retinoic acid, thyroid hormone, and vitamin D receptors to their cognate response elements," <i>Cell</i> , 67:1251-1266, 1991.
	C69	Zechel <i>et al.</i> , "The dimerization interfaces formed between the DNA binding domains of RXR, RAR and TR determine the binding specificity and polarity of the full-length receptors to direct repeats," <i>EMBO J.</i> , 13(6):1425-1433, 1994.
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